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THE LAND SHELLS OF KAMCHATKA

BY WALTER J. EYERDAM

During the past summer of 1928 I spent three and one-half months in Kamchatka and upon various occasions made diligent efforts to collect land shells. The results were very meager compared with the rewards I have had in more southerly regions. Although a considerable area of South Kamchatka was covered this time, I did not add any additional species to those found in 1925, around the Gulf of Kronotzki and the mouth of the Kamchatka River, several hundred miles farther north.

The following species were taken mostly in the region around Avacha Bay, Avacha River and the adjacent mountains—Polovina, Korjatskaya and Avachinskaia Sopka.

Vitrea alaskana (Dall), common.

Cochlicopa lubrica (Müll.), common.

Euconulus fulvus (Müll.), not common.

Euconulus fulvus alaskensis Pilsbry, common.

Gonyodiscus cronkhitei (Newcomb), common.

Zoogenites harpa Morse, rare.

Polita hammonis (Strom), rare.

Vertigo modesta (?), rare.

Baron von Rosen of the Riabusinski Botanical Expedition to Kamchatka, 1908-1910, wrote a report on the land and fresh water shells of Southern Kamchatka. Besides the eight above mentioned species he has included three *Succinea* from the banks of the Kamchatka River—*Succinea putris* (L.), *S. pfeifferi* (Rossm.), *S. arenaria* (Bouch).

Practically all the species mentioned are found in the same habitat. They occur in the rich loam at the bases of large annual plants such as *Spirea Kamchatica* and *Heracleum dulce* and other species of *Umbelliferae*. They are often abundant in hollows where the decayed vegetation mixes readily with the volcanic ash. In the birch forests and fields of tall annual plants, on rocky hillsides and along stream banks are found the only shells that occur. In swamps, I have only found a few dead *Succinea*. In either wet or dry tundras or on large lava flows, I have never found a shell.

Dr. Ditmars, who traveled and collected for a period of four years in Kamchatka during the early fifties of the previous century, mentions in his admirable work on the volcanoes and biology of that region, that there are no land shells to be found there.

The Swedish Kamchatka Expedition of 1921-1924 did not report on the land shells of the region.

It is not likely that any other species of land shells occur in the tundra regions of the north and west coasts of Kamchatka. A few more may be found along the Kamchatka River or at the extreme southern end of Kamchatka around Cape Lapotka, where may be found a considerable number of Kurile Island and Japanese plants.



EGG-CAPSULES OF *FASCIOLARIA GIGANTEA*